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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,464	12/26/2001	Shahriar Vazan	D/99694	2957

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Patent Documentation Center  
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EXAMINER

PHAM, HAI CHI

ART UNIT PAPER NUMBER

2861

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/025,464

Applicant(s)

VAZAN, SHAHRIAR

Examiner

Hai C Pham

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hammond et al. (U.S. 5,668,587) in view of Doi (U.S. 4,747,091).

Hammond et al., an acknowledged prior art, discloses a method and apparatus for providing automatic LED printbar uniformity and adjustment, the adjustment method comprising the steps of calibrating the printbar by determining a first set of correction values (initial calibration) for each corresponding one of the individual LEDs, storing said first set of correction values and a plurality of sets of correction values in a correction memory (41), each said correction value being a digital value (col. 4, lines 40-43) for causing output of light of a substantially predetermined light intensity from the corresponding one of said individual LEDs, measuring the light intensity from a predetermined set of individual LEDs of the printbar (col. 3, lines 31-51).

However, Hammond et al. fails to teach the comparator being used to compared the measured light intensity with a uniform light intensity, and determining a difference between the measured light intensity and the uniform light intensity, and loading the set

of correction values into the printbar when the determined difference exceeds a predetermined maximum difference.

Nevertheless, Doi discloses a method for calibrating the light intensity of a write unit, which includes measuring the light intensity of the laser beam (PINMON), comparing the measured light intensity with a threshold value (RDLMTL or RDLMTH), and adjusting the light intensity of the laser beam based on the difference of the comparison (Fig. 3).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the method of calibrating of Hammond et al. with the aforementioned teaching of Doi. By doing so, the correction circuitry would compensate for light output differences based on the result of comparison, as suggested by Hammond et al. at col. 1, lines 46-57).

3. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hammond et al. in view of Doi, as applied to claim 1 above, and further in view of Kitamura et al. (U.S. 5,389,973).

Hammond et al., as modified by Doi, discloses all the basic limitations of the claimed invention except for the scaling and quantizing the digital signals shuffling the quantized digital signals, and the driving the set of individual LEDs with the shuffled digital signals.

Regardless, Kitamura et al. discloses a quantization control circuit for determining an optimum scaling factor for video signals, which are also subjected to a shuffling process such that the complex video signals are free of errors.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the control circuit as taught by Kitamura et al. in the modified device of Hammond et al. for the purpose of providing accurate correction data to the LED driving circuits.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hammond et al. in view of Matsubara et al. (U.S. 5,166,510).

Hammond et al. discloses all the basic limitations of the claimed invention except for the plurality of second LEDs being used to collect intensity data.

However, Matsubara et al. discloses a light printer including a photoelectric light quantity control means for controlling the light emitted from each of the plurality of light-emitting elements of the array to be uniform according to the light intensity of the monitoring light element (Sm) detected by the sensor (18).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate a monitor light as taught by Matsubara et al. in the device of Hammond et al. for the purpose of providing an optimum driving current to each of the plurality of individual LEDs.

5. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hammond et al. in view of Matsubara et al., as applied to claim 4 above, and further in view of Kitamura et al.

Hammond et al., as modified by Matsubara et al., discloses all the basic limitations of the claimed invention except for the scaling and quantizing the digital signals shuffling the quantized digital signals, and the driving the set of individual LEDs with the shuffled digital signals.

Regardless, Kitamura et al. discloses a quantization control circuit for determining an optimum scaling factor for video signals, which are also subjected to a shuffling process such that the complex video signals are free of errors.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the control circuit as taught by Kitamura et al. in the modified device of Hammond et al. for the purpose of providing accurate correction data to the LED driving circuits.

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (703) 308-1281. The examiner can normally be reached on T-F (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin R. Fuller can be reached on (703) 308-0079. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

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308-7722, (703) 308-7724, (703) 308-7382, (703) 305-3431, (703) 305-3432 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



HAI PHAM  
PRIMARY EXAMINER

March 22, 2003